

*Strassburg in Alsace.*—University. Professor Hergesell; selected chapters in modern meteorology treated by the semi-nary method, two hours weekly.

*Stuttgart.*—Technical High School. No meteorology.

*Tubingen.*—The University. No meteorology.

*Würzburg.*—University. No meteorology.

#### AUSTRIA.

*Czernowitz.*—The University. No meteorology.

*Graz.*—The University. Professor Bendof; meteorology, three hours a week. Technical High School. No meteorology.

*Innsbruck.*—University. Professor Trabert; weather and climate, three hours weekly; the föhn, one hour weekly.

*Prague.*—German University. Professor Spittaler. Practical meteorology, viz, instruments, observations, and computations, three hours weekly. German Technical High School. No meteorology.

*Vienna.*—The University. Professor Hann; introduction to the computation and reduction of meteorological and climatological observations two hours weekly. Professor Pernter; meteorology, viz, three hours a week on the theory of instruments and practise in observing and computations at the Central Institute for Meteorology. Doctor Valentin; on barometric hypsometry, one hour a week. Technical High School. No meteorology.

#### SWITZERLAND.

*Basle.*—No meteorology.

*Berne.*—University. No meteorology.

*Zurich.*—University. Professor Stoll; the atmosphere and the hydrosphere. Polytechnicum. No meteorology.

Out of 44 universities and technical schools using the German language 13 recognize meteorology as worthy of special mention.

In the *Mitteilungen* for May, 1905, page 118, Doctor von Lendenfeld, of Prague, gives the result of a study of the hot winds in Melbourne.

*The hot winds of Melbourne.*—These hot winds come from the north and occur throughout the summer of the Southern Hemisphere. They may last from a few hours to three days, increasing steadily in warmth and velocity until they reach 40° to 44°C. and 60 or 80 kilometers per hour. They end with the sudden formation of thunderstorms; and the wind swings around to the south and the temperature may fall to 22°C., in the first hour. They occur on the front of a region of low pressure which moves from west to east, and their severity increases in proportion as the center of low pressure approaches the city of Melbourne. The sudden shift of wind and fall of temperature occurs at the moment when the center of the pressure passes the meridian of Melbourne. This hot wind comes from the interior of Australia; it passes over the southwest portion of the Australian Alps, lying north of Melbourne at an altitude of about 700 meters, and descends along the southern slope of these hills. By this descent the wind becomes compressed and heated so that it has something of the characteristics of the föhn wind as to heat and temperature. By drying up the sands and soil over which the wind blows it allows the particles that would otherwise be stuck together by moisture to separate from each other so that a great mass of dust is carried by the wind. The heavens are darkened and the sun is invisible. The leaves of the trees dry up and drop off on account of its warmth and the unusual quantity of bacteria causes flesh, milk, and other foods to spoil rapidly.

[However, this is not a föhn wind properly so called as the latter derives its extra heat from the latent heat set free by condensation of vapor, whereas the hot winds of Melbourne derive their extra heat from the hot, dry soil of the interior of Australia.—Ed.]

#### SHOWERS OF FISH.

Although for a century past numerous miscellaneous questions that are common among those who have not considered the subject carefully have been banished from meteorological treatises yet we find them cropping up everywhere in the classes of children devoted to nature study. In answer to an occasional correspondent it may be well to state in these columns that it is well established as highly probable that in some cases violent winds have swept up from shallow ponds and wet swamps not only the water and the leaves but also the smaller animals such as little fishes, tadpoles and frogs. In fact, in an early number of the *MONTHLY WEATHER REVIEW* will be found on record a case in which a small turtle was carried up and was coated with ice before it fell as the center of a hailstone. Heavy objects invariably come down soon and within a few miles, but such expressions as "a rain of toads", "a rain of fish" are exaggerations. The yellow pollen of the pine is often carried up in great quantity and descending forms a so-called "shower of sulphur". Sometimes the spores of fungi are brought down by the rain and grow so rapidly after the rain is over that the ground is covered with a reddish slime, sometimes called a "shower of blood". At other times great quantities of the spawn of frogs descending with the rain and gathering into the pools of water make a "shower of tadpoles". But the so-called "shower of frogs" and the "shower of angle worms" are not likely to be cases of this kind. The latter are often drowned out of their abodes in the soil and seek fresh air at the surface. We do not know that these showers of frogs and worms have been very carefully investigated by any naturalist, and the subject is not very important, but in general the study of such questions belong to natural history, not to meteorology.

#### HAWAIIAN CLIMATOLOGY.

For many years it has been the policy of the Weather Bureau to publish in the *MONTHLY WEATHER REVIEW* climatological data from different parts of the globe that were not likely to become otherwise accessible to the student of meteorology. Those interested in the climatology of Hawaii will notice that the tabular data from that territory is now restricted to the table of data for Honolulu. This is because the general monthly report of the Climate and Crop Section of Hawaii gives very full details and is printed in a sufficiently large edition to allow of furnishing copies to all who are especially interested in the subject. These may be had by direct application to the Section Director, U. S. Weather Bureau office, Honolulu, T. H.

#### SCIENTIFIC AERONAUTICS.

We have published some account of the action taken at the fourth conference of the International Committee for Scientific Ballooning which took place on the 9th of August, 1904, at St. Petersburg.

An official copy of the resolutions then adopted was forwarded to the United States Government through the Russian Ambassador on April 27, 1905, drawing attention to the necessity of an international organization for aerial sounding and asking whether the Government of the United States will contribute toward the printing of the publications.

The resolutions state that the sum expended for publication during the first three years was 30,000 francs or about \$6000, and that the same amount will probably be needed in the future. Up to the present time the expense has been defrayed by one of the countries, viz, Germany, but it is recommended that each country be invited to defray a share of the expense, receiving in return a corresponding number of copies of the publication. Private individuals are also free to contribute or subscribe.